

INL News Release
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Prestigious Energy Research Center coming to Idaho National Laboratory

IDAHO FALLS -- Idaho National Laboratory will be creating a new Center for Materials Science of Nuclear Fuel – one of 46 new Energy Frontier Research Centers (EFRC) selected for funding by the U.S. Department of Energy.

Dieter Wolf, Ph.D., coordinated the funding application and will head the new center. Work will commence this October when funding is in place. For the next five years, DOE plans to fund the EFRC at a level of \$2 million per year. The center's objective is to create computer models that will predict the behavior of materials in nuclear reactors and then validate those models against actual experiment results.

With a total of 260 applications submitted and only 46 centers receiving funding, the selection process was "based on a rigorous merit review process utilizing outside panels composed of scientific experts," according to a DOE news release. When asked what set the INL's application apart from many other applications, Wolf said, "I think we have assembled a superb team of scientists and engineers to execute our long-term nuclear energy vision."

The center's research will focus on uncovering the reasons why certain materials used in nuclear reactors behave the way they do. After being exposed to radiation for extended periods of time, certain materials tend to deteriorate. The new center, under Wolf's lead, will use computer modeling to predict the behavior of nuclear fuel materials, and then test the validity of their models by performing experiments with the actual materials.

To do this, they'll use facilities with unique capabilities. INL's Advanced Test Reactor, as well as the Advanced Photon Source (at Argonne National Laboratory) will be important tools for the center to test its work. The center will also collaborate with several universities from across the nation: the Colorado School of Mines, Florida State University, North Carolina State University, the University of Florida, Washington State University and the University of Wisconsin. Oak Ridge National Laboratory will be involved as well.

"This award recognizes the leading role of INL in the nuclear energy field," said Wolf. One benefit he hopes to see the center bring to the area is more bright scientists. "To have a prestigious center makes it easier to bring excellent science and scientists to the lab," said Wolf.

Phillip Finck, Ph.D., associate laboratory director for Nuclear Science and Technology added that "This center is an extraordinary opportunity to bring the tools and knowledge developed by the basic sciences into the world of practical applications, focused on the very challenging behavior of nuclear fuels. This will allow us to leverage the science and engineering programs in the laboratory."

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